

UNITED STATES PATENT AND TRADEMARK OFFICE



UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
10/696,008	10/29/2003	Mark-Matthias Bakran	BAKRAN	7101
20151	7590 05/14/2004		EXAMINER	
HENRY M F 350 FIFTH AV	EIEREISEN, LLC		STERRETT,	JEFFREY L
SUITE 4714	. 21.02		ART UNIT	PAPER NUMBER
NEW YORK,	NY 10118		2838	·
			DATE MALE DO 05/14/200	

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

• • • • • • • • • • • • • • • • • • • •	Application No.	Applicant(s)				
Office Action Summary	10/696,008	BAKRAN ET AL				
Office Action Summary	Examiner	Art Unit				
	Jeffrey L. Sterrett	2838				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply If NO period for reply is specified above, the maximum statutory period with Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	6(a). In no event, however, may a reply be time within the statutory minimum of thirty (30) days ill apply and will expire SIX (6) MONTHS from the species the application to become ARAI FOOLET	ely filed s will be considered timely. the mailing date of this communication.				
Status						
1) Responsive to communication(s) filed on 18 No	vember 2003.					
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is						
closed in accordance with the practice under Ex	k parte Quayle, 1935 C.D. 11, 45	3 O.G. 213.				
Disposition of Claims						
4)⊠ Claim(s) <u>1-5</u> is/are pending in the application.						
4a) Of the above claim(s) is/are withdraw	n from consideration.					
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-5</u> is/are rejected.						
7) Claim(s) is/are objected to.						
8) Claim(s) are subject to restriction and/or	election requirement.					
Application Papers						
9)☐ The specification is objected to by the Examiner.						
10) The drawing(s) filed on is/are: a) acce		vaminar				
Applicant may not request that any objection to the di						
Replacement drawing sheet(s) including the correction	n is required if the drawing(s) is a time	37 CFR 1.85(a).				
11)☐ The oath or declaration is objected to by the Exa	miner. Note the attached Office	Action or form PTO-152.				
Priority under 35 U.S.C. § 119						
12)⊠ Acknowledgment is made of a claim for foreign p	niority under 35 U.S.C. § 119(a)-	(d) or (f).				
a)⊠ All b)□ Some * c)□ None of:						
1. Certified copies of the priority documents						
2. Certified copies of the priority documents						
3. Copies of the certified copies of the priorit	y documents have been received	I in this National Stage				
application from the International Bureau (
* See the attached detailed Office action for a list of	the certified copies not received					
Attachment(s)		•				
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO 948)	4) Interview Summary (F	PTO-413)				
2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)	Paper No(s)/Mail Date 5) Notice of Informal Pate	e ent Application (PTO-152)				
Paper No(s)/Mail Date	6) Other:	ent Application (FTO-152)				
Patent and Trademark Office		<u> </u>				

Application/Control Number: 10/696,008

Art Unit: 2838

Page 2

- 1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
- 2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 3. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Teichmann (US 6,205,040).

Teichmann discloses a N-point converter circuit (figures 4 and 5) comprising two series connected converter valves (S1/S2 and S3/S4) having turn-off semiconductor switches (T1/T2 and T3/T4, respectively) connected in series at valve connection points (7, 9, and 10), a voltage intermediate circuit having capacitors (Cdc1, Cdc2, Cdc3, and Cdc4) connected in series at capacitor connection points (0, 1, and 3), and cross arms (Saux1, Saux2, and Saux3) having anti-serial connected turn-off semiconductor switches wherein the free ends of the converter valves and capacitors form DC terminals (+ or 2 and – or 4) and a cross arm is connected between a valve connection point (10) that serves as a load terminal and a capacitor connection point (0).

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Application/Control Number: 10/696,008

Art Unit: 2838

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teichmann in view of Mizukoshi (US 6,005,787).

Teichmann teaches a N-point converter circuit as recited by claim 2 except for arranging the turn-off semiconductor switches of the converter valves and the cross arms side-by-side. Mizukoshi teaches as old and known in the art at the time of the invention utilizing arranging the turn-off semiconductor switches (11a, 12a, 13a, 14a, 15a, 16a, 17a, and 18a) of the converter valves and the cross arms of a N-point converter circuit side-by-side as shown in figures 1 and 6. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the N-point converter circuit of Teichmann by arranging the turn-off semiconductor switches of the converter valves and the cross arms side-by-side as taught by Mizukoshi in order to simply the layout of the assembly of the turn-off semiconductor switches.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Teichmann in view of Yuan et al (reference cited on IDS).

Teichmann teaches a N-point converter circuit as recited by claim 5 except for utilizing IGBT's as the turn-off semiconductor switches. Yuan et al teaches as old and known in the art at the time of the invention a N-point converter circuit utilizing IGBT's as the turn-off semiconductor switches. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the N-point converter circuit of Teichmann by utilizing IGBT's as the turn-off semiconductor switches in order to benefit from the known advantages and characteristics of IGBT's as taught by Yuan et al.

Art Unit: 2838

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rouaud et al (US 5,684,688) is cited to show a N-point converter circuit utilizing IGBT's as the turn-off semiconductor switches old and known in the art at the time of the invention.

Bruckmann et al (US 5,949,669) and Teichmann (US 6,278,626) are cited to show N-point converter circuits utilizing cross arms old and known in the art at the time of the invention.

Bijlenga (US 6,480,403) is cited as an equivalent of WO 9940676.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Sterrett whose telephone number is (571) 272-2085. The examiner can normally be reached on Monday-Thursday & 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2838

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Les L Samuell

> Jeffrey L. Sterrett **Primary Examiner** Art Unit 2838